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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,773	06/23/2006	Tomofumi Yamanashi	P30147	1328
52123 7590 05/28/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER LENNOX, NATALIE	
			ART UNIT 2626	PAPER NUMBER
			NOTIFICATION DATE 05/28/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No. 10/596,773	Applicant(s) YAMANASHI ET AL.	
	Examiner NATALIE LENNOX	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/05/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed October 5, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

2. Claims 10-15 are objected to because of the following informalities: In claims 10, 14-15, 9th line, and claims 11-13, 8th line, a "said code vector" is cited; however, there is no antecedent basis for this code vector in the claims. For purposes of examination, examiner interprets "said code vector" to be "a code vector." Appropriate correction is required.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 14-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 14 and 15 claim "a voice and musical tone coding program." This subject matter is not limited to that which falls within a statutory category of invention because it

is not limited to a process, machine, manufacture, or a composition of matter. This is a practical application in the technical arts, however the coding program as claimed is simply functional descriptive material, and thus a computer program *per se*.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (US 2002/0013703), hereinafter Matsumoto, in view of Akagiri (US Patent 5,502,789).

As per claims 10, 12, and 14, Matsumoto teaches a voice and musical tone coding apparatus, method, and program, respectively, comprising:

an transformation processing section that converts a voice and musical tone signal from a time component to a frequency component (Paragraph [0065], lines 1-6, paragraph [0004], lines 1-6, and paragraph [0154], lines 1-5);

an auditory masking characteristic value calculation section that finds an auditory masking characteristic value from said voice and musical tone signal (Paragraph [0065], lines 17-29, and paragraph [0004], lines 1-6, and paragraph [0154], lines 1-5); and

a vector quantization section that, when one of said voice and musical tone signal frequency component and said code vector is within an auditory masking area

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indicated by said auditory masking characteristic value, performs vector quantization changing a calculation method of a distance between said voice and musical tone signal frequency component and said code vector based on said auditory masking characteristic value (Paragraph [0065], lines 9-29).

However, Matsumoto does not specifically mention
a quadrature transformation processing section.

Conversely, Akagiri teaches
a quadrature transformation processing section (Col. 4, lines 54-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of a quadrature transformation processing section as taught by Akagiri for Matsumoto's apparatus because Akagiri performs a quadrature (orthogonal) transformation on an input, such as speech or other audio, in order to transform a time axis into a frequency axis (Col. 4, lines 54-59 and 42-46) prior to quantization (Col. 4, lines 65-67).

As per claims 11, 13, and 15, Matsumoto teaches a voice and musical tone coding apparatus, method, and program, respectively, comprising:

a transformation processing section that converts a voice and musical tone signal from a time component to a frequency component (Paragraph [0065], lines 1-6, paragraph [0004], lines 1-6, and paragraph [0154], lines 1-5);

an auditory masking characteristic value calculation section that finds an auditory masking characteristic value from said voice and musical tone signal (Paragraph [0065], lines 17-29, and paragraph [0004], lines 1-6, and paragraph [0154], lines 1-); and

a vector quantization section that, when codes of said voice and musical tone signal frequency component and said code vector differ, and codes of said voice and musical tone signal frequency component and said code vector are outside an auditory masking area indicated by said auditory masking characteristic value, performs vector quantization changing a calculation method of a distance between said voice and musical tone signal frequency component and said code vector based on said auditory masking characteristic value (Paragraph [0065], lines 9-29).

However, Matsumoto does not specifically mention
a quadrature transformation processing section.

Conversely, Akagiri teaches
a quadrature transformation processing section (Col. 4, lines 54-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of a quadrature transformation processing section as taught by Akagiri for Matsumoto's apparatus because Akagiri performs a quadrature (orthogonal) transformation on an input, such as speech or other audio, in order to transform a time axis into a frequency axis (Col. 4, lines 54-59 and 42-46) prior to quantization (Col. 4, lines 65-67).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Chen et al. (US 2003/0115050) provides an audio encoder with a frequency transformer that receives audio samples and converts them to the frequency domain (paragraph [0081], a perception modeler that models properties of the human auditory system to improve the quality of the reconstructed audio signal (paragraph [0085]), a weighter for generating weighting factors for quantization based upon the excitation pattern from the perception modeler (paragraph [0086], and a quantizer, which could be an adaptive, uniform, scalar quantizer, as well as a non-uniform quantizer, a vector quantizer, and/or a non-adaptive quantizer (paragraph [0088]).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATALIE LENNOX whose telephone number is (571)270-1649. The examiner can normally be reached on Monday to Friday 9:30 am - 7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL 05/14/2008
/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626